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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/759,204

01/20/2004

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7590 12/26/2006
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EXAMINER

FRANKLIN, RICHARD B

ART UNIT

PAPER NUMBER

2181

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
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3 MONTHS

12/26/2006

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No. 10/759,204	Applicant(s) SHIMIZU ET AL.	
	Examiner Richard Franklin	Art Unit 2181	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 16 November 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-6 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-6 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

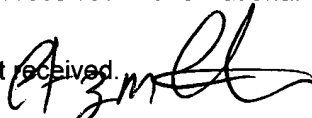
Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.



FRITZ FLEMING
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100

12/22/2006

Attachment(s)

- | | |
|---|--|
| <p>1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)</p> <p>2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)</p> <p>3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____</p> | <p>4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____</p> <p>5) <input type="checkbox"/> Notice of Informal Patent Application</p> <p>6) <input type="checkbox"/> Other: _____</p> |
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DETAILED ACTION

1. Claims 1 – 6 are pending.

Continued Examination Under 37 CFR 1.114

2. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 18 October 2006 has been entered.

Response to Arguments

3. Applicant's arguments with respect to claims 1 – 6 have been considered but are moot in view of the new ground(s) of rejection.

Claim Objections

4. Claims 2 and 3 are objected to because of the following informalities:
 - Claims 2 and 3 show an incorrect status of "Original." Amendments have been made to the claims and therefore they should be labeled as "Currently Amended."

Appropriate correction is required.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims 2 – 6 are is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 2 recites the limitation "a program identifier" in line 9 of the claim. There is insufficient antecedent basis for this limitation in the claim. It is not clear if the limitation is referring to the program identifier recited earlier in the claim or a new program identifier.

The Examiner has interpreted the limitation as referring to the program identifier recited earlier in the claim.

Claim 2 recites the limitation "a logical volume existing in said storage apparatus" in lines 11 and 12 of the claim. There is insufficient antecedent basis for this limitation in the claim. It is not clear if the limitation is referring to the logical volume existing in said storage apparatus recited earlier in the claim or a new logical volume existing in said storage apparatus.

The Examiner has interpreted the limitation as referring to the logical volume existing in said storage apparatus recited earlier in the claim.

Claim 2 recites the limitation "a network address" in line 17 of the claim. There is insufficient antecedent basis for this limitation in the claim. It is not clear if the limitation is referring to the network address recited earlier in the claim or a new network address.

The Examiner has interpreted the limitation as referring to the network address recited earlier in the claim.

Claim 2 recites the limitation "a logical volume" in line 18 of the claim. There is insufficient antecedent basis for this limitation in the claim. It is not clear if the limitation is referring to the logical volume recited earlier in the claim or a new logical volume.

The Examiner has interpreted the limitation as referring to the logical volume recited earlier in the claim.

Claim 2 recites the limitation "an IO command" in lines 20 and 21 of the claim. There is insufficient antecedent basis for this limitation in the claim. It is not clear if the limitation is referring to the IO command recited earlier in the claim or a new IO command.

The Examiner has interpreted the limitation as referring to the IO command recited earlier in the claim.

Claim 3 recites the limitation "a program identifier" in line 12 of the claim. There is insufficient antecedent basis for this limitation in the claim. It is not clear if the

limitation is referring to the program identifier recited earlier in the claim or a new program identifier.

The Examiner has interpreted the limitation as referring to the program identifier recited earlier in the claim.

Claim 3 recites the limitation "a logical volume existing in said storage apparatus" in lines 14 and 15 of the claim. There is insufficient antecedent basis for this limitation in the claim. It is not clear if the limitation is referring to the logical volume existing in said storage apparatus recited earlier in the claim or a new logical volume existing in said storage apparatus.

The Examiner has interpreted the limitation as referring to the logical volume existing in said storage apparatus recited earlier in the claim.

Claim 3 recites the limitation "a network address" in line 19 of the claim. There is insufficient antecedent basis for this limitation in the claim. It is not clear if the limitation is referring to the network address recited earlier in the claim or a new network address.

The Examiner has interpreted the limitation as referring to the network address recited earlier in the claim.

Claim 3 recites the limitation "a logical volume" in line 20 of the claim. There is insufficient antecedent basis for this limitation in the claim. It is not clear if the limitation is referring to the logical volume recited earlier in the claim or a new logical volume.

The Examiner has interpreted the limitation as referring to the logical volume recited earlier in the claim.

Claim 3 recites the limitation "an address of a transmission originator" in line 24 of the claim. There is insufficient antecedent basis for this limitation in the claim. It is not clear if the limitation is referring to the address of a transmission originator recited earlier in the claim or a new address of a transmission originator.

The Examiner has interpreted the limitation as referring to the address of a transmission originator recited earlier in the claim.

Claim 3 recites the limitation "a communication with said storage apparatus" in line 25 of the claim. There is insufficient antecedent basis for this limitation in the claim. It is not clear if the limitation is referring to the communication with said storage apparatus recited earlier in the claim or a new communication with said storage apparatus.

The Examiner has interpreted the limitation as referring to the communication with said storage apparatus recited earlier in the claim.

Claim 4 recites the limitation "a logical volume existing in said storage apparatus" in lines 2 and 3 of the claim. There is insufficient antecedent basis for this limitation in the claim. It is not clear if the limitation is referring to the logical volume existing in said

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storage apparatus recited in claim 3 or a new logical volume existing in said storage apparatus.

The Examiner has interpreted the limitation as referring to the logical volume existing in said storage apparatus recited in claim 3.

Claim 5 recites the limitation "a received IO command" in line 5 of the claim. There is insufficient antecedent basis for this limitation in the claim. It is not clear if the limitation is referring to the received IO command recited earlier in the claim or a new received IO command.

The Examiner has interpreted the limitation as referring to the received IO command recited earlier in the claim.

Claim 5 recites the limitation "a program identifier" in line 15 of the claim. There is insufficient antecedent basis for this limitation in the claim. It is not clear if the limitation is referring to the program identifier recited earlier in the claim or a new program identifier.

The Examiner has interpreted the limitation as referring to the program identifier recited earlier in the claim.

Claim 5 recites the limitation "an access to a logical volume" in lines 15 and 16 of the claim. There is insufficient antecedent basis for this limitation in the claim. It is not

clear if the limitation is referring to the access to the logical volume recited earlier in the claim or a new access to a new logical volume.

The Examiner has interpreted the limitation as referring to the access to the logical volume recited earlier in the claim.

Claim 6 recites the limitation "a received IO command" in line 5 of the claim. There is insufficient antecedent basis for this limitation in the claim. It is not clear if the limitation is referring to the received IO command recited earlier in the claim or a new received IO command.

The Examiner has interpreted the limitation as referring to the received IO command recited earlier in the claim.

Claim 6 recites the limitation "a logical volume existing in said storage apparatus" in lines 15 and 16 of the claim. There is insufficient antecedent basis for this limitation in the claim. It is not clear if the limitation is referring to the logical volume existing in said storage apparatus recited earlier in the claim or a new logical volume existing in said storage apparatus.

The Examiner has interpreted the limitation as referring to the logical volume existing in said storage apparatus recited earlier in the claim.

Claim 6 recites the limitation "a program identifier" in line 16 of the claim. There is insufficient antecedent basis for this limitation in the claim. It is not clear if the

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limitation is referring to the program identifier recited earlier in the claim or a new program identifier.

The Examiner has interpreted the limitation as referring to the program identifier recited earlier in the claim.

Claim 6 recites the limitation "an access" in line 17 of the claim. There is insufficient antecedent basis for this limitation in the claim. It is not clear if the limitation is referring to the access recited earlier in the claim or a new access.

The Examiner has interpreted the limitation as referring to the access recited earlier in the claim.

Claim Rejections - 35 USC § 101

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

6. Claims 3 and 4 are rejected under 35 U.S.C. 101 because the claims fail the practical application test. The claims recite data transformation per se with no tangible result.

As per claims 3 and 4, the claims recite non-statutory subject matter that is directed solely to data transformation with no claimed tangible result. The result of the claims appear to be a thought (determination) or a mere computation within a processor rather than a real world tangible result that is a practical application of the abstract idea of "determining."

Performing an action based on the “determining” or conveying or storing the result of the operation would give the claim a tangible result.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

7. Claims 1 – 4 are rejected under 35 U.S.C. 102(e) as being anticipated by US Patent No. 6,820,168 (hereinafter Tanaka).

As per claim 1, Tanaka teaches an IO requesting method of issuing an IO request to a storage apparatus of a computer system by execution of a program in the computer system, wherein a program identifier (Figure 3 Item 380, Figure 4 Items 450 – 452) set in advance in the program (Col 6 Lines 61 – 63) and a request address (Figure 3 Item 375) are applied to a first function to generate one value used as a new address (Figure 3, Figure 9 Item 820, Col 9 Lines 16 – 67 [The device driver takes the IO request and embeds the LPAR-ID, making a new value in the date frame]), which is different from the request address, with the program identifier appended thereto, and the IO request is issued by using the new address (Figure 9 Item 825).

As per claim 2, Tanaka teaches a computer (Figure 4 Item 110) executing a first program (Figure 4 Items 410, 411, 412, and 413) issuing an IO request (Figure 4 Item 130) to a storage apparatus (Figure 1 Item 170) and a second program (Figure 4 Items 440, 441, and 442) for collecting the IO request and transmitting the IO request as an IO command to the storage apparatus wherein a program identifier set in advance in the first program (Figure 8 Item 710) and an original request address are applied to a first function to produce one value (Figure 9 Item 820 [The device driver takes the IO request and embeds the LPAR-ID, making a new value in the data frame]), which is different from the original request address, with the program identifier appended thereto, and the IO request is issued by using the new address (Figure 9 Item 825); the second program (Col 12 Lines 36 – 56) has a table associating a program identifier (Figure 6 Items “LPAR”), a logical volume existing in the storage apparatus (Figure 6 Item “Logical Volume #0”, Col 8 Lines 49 – 52) and a network address (Figure 6 Items “WWN”) with each other; and if the IO request is an IO request issued to a logical volume existing in the storage apparatus as a logical volume prescribed to be a protected logical volume, a second function for carrying out an operation to input one value for generating the original request address and the program identifier (Col 10 Lines 59 – 66), said table is searched for a network address associated with the generated program identifier and a logical volume indicated by the generated original request address (Col 10 Lines 59 – 66) and a communication with the storage apparatus is carried out by using the network address as an address of a transmission

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originator in order to issue an IO command to the original request address (Col 11 Lines 5 – 10).

As per claim 3, Tanaka teaches a computer system (Figure 1) comprising two computers (Figure 1 Items 110 and 120) and a storage apparatus (Figure 4 Item 195) connected to the computers by a network apparatus (Figure 4 Item 460) wherein each of the computers execute a first program (Figure 4 Items 410, 411, 412, and 413) issuing an IO request (Figure 4 Item 130) to a storage apparatus (Figure 1 Item 170) and a second program (Figure 4 Items 440, 441, and 442) for collecting the IO request and transmitting the IO request as an IO command to the storage apparatus; a program identifier set in advance in the first program (Figure 8 Item 710) and a request address are applied to a first function to produce one value (Figure 9 Item 820 [The device driver takes the IO request and embeds the LPAR-ID, making a new value in the data frame]), which is different from the original request address, with the program identifier appended thereto, and the IO request is issued by using the new address (Figure 9 Item 825); the second program (Col 12 Lines 36 – 56) has a table associating a program identifier (Figure 6 Items “LPAR”), a logical volume existing in the storage apparatus (Figure 6 Item “Logical Volume #0”, Col 8 Lines 49 – 52) and a network address (Figure 6 Items “WWN”) with each other; and if the IO request is an IO request issued to a logical volume existing in the storage apparatus as a logical volume prescribed to be a protected logical volume, a second function for carrying out an operation to input one value for generating the original request address and the program identifier (Col 10

Lines 59 – 66), said table is searched for a network address associated with the generated program identifier and a logical volume indicated by the generated original request address (Col 10 Lines 59 – 66), and on the basis of the network address used as an address of a transmission originator, the network apparatus determines whether or not a communication with the storage apparatus can be carried out.

As per claim 4, Tanaka also teaches wherein the storage apparatus determines whether or not an access to a logical volume existing in the storage apparatus can be made (Figure 1 Item 170, Col 12 Lines 18 – 23).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent No. 6,820,168 (hereinafter Tanaka) in view of US Patent Application Publication No. 2004/0030766 (hereinafter Witkowski).

As per claim 5, Tanaka teaches an access control method adopted for a storage apparatus, the method comprising the steps of recognizing a received IO command as an IO command issued to a logical volume existing in the storage apparatus as a logical volume prescribed to be a logical volume protected from a received IO command

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(Tanaka; Figure 12 Item 1105); using a second function for inputting one value to generate a second address and a program identifier (Tanaka; Figure 12 Item 1120, Col 10 Lines 59 – 63 [In order to reference the correct table, the logical volume number must be obtained from the data frame]); determining whether or not an access to the logical volume can be made on the basis of the program identifier and an association table (Tanaka; Figure 12 Items 1125 and 1130, Col 10 Lines 63 – 66); wherein the association table is provided as a table (Tanaka; Figure 6) for associating a logical volume identifier with a program identifier for identifying a program allowed to make an access to a logical volume identified by the logical-volume identifier (Tanaka; Figure 6, Col 8 Lines 25 – 48).

Tanaka does not teach replacing the first address specified in the IO command with the second address and processing the IO command in case an access by using the IO command is determined to be an access that can be made.

However, Witkowski teaches replacing the first address specified in the IO command with the second address and processing the IO command in case an access by using the IO command is determined to be an access that can be made (Witkowski; Paragraph [0173]).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the teachings of Tanaka to include the address replacing because doing so allows for more sophisticated processing of a data stream (Witkowski; Paragraph [0173]).

9. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent No. 6,820,168 (hereinafter Tanaka) in view of US Patent Application Publication No. 2004/0030766 (hereinafter Witkowski) and further in view of US Patent Application Publication No. 2003/0159058 (hereinafter Eguchi).

As per claim 6, Tanaka teaches an access control method adopted for a storage apparatus, the method comprising the steps of recognizing a received IO command included in a packet transmitted through a network (Tanaka; Figure 3) as an IO command issued to a logical volume existing in the storage apparatus as a logical volume prescribed to be a logical volume protected from a received IO command (Tanaka; Figure 12 Item 1105); using a second function for inputting one value to generate a second address and a program identifier (Tanaka; Figure 12 Item 1120, Col 10 Lines 59 – 63 [In order to reference the correct table, the logical volume number must be obtained from the data frame]); determining whether or not the packet can be transferred to the storage apparatus on the basis of the program identifier and an association table (Tanaka; Figure 12 Items 1125 and 1130, Col 10 Lines 63 – 66); wherein the association table (Tanaka; Figure 6) is provided as a table for associating a logical volume identifier for identifying a logical volume existing in the storage apparatus and a program identifier for identifying a program allowed to make an access to the logical volume identified by the logical volume identifier with each other (Figure 6, Col 8 Lines 25 – 48).

Tanaka does not teach replacing the first address specified in the IO command with the second address and processing the IO command in case an access by using

the IO command is determined to be an access that can be made and that the association table also associates a storage apparatus identifier (Tanaka; Figure 6 [WWN#0 – WWN#3]) for identifying the storage apparatus.

However, Witkowski teaches replacing the first address specified in the IO command with the second address and processing the IO command in case an access by using the IO command is determined to be an access that can be made (Witkowski; Paragraph [0173]).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the teachings of Tanaka to include the address replacing because doing so allows for more sophisticated processing of a data stream (Witkowski; Paragraph [0173]).

Tanaka in combination with Witkowski does not teach that the association table also associates a storage apparatus identifier (Tanaka; Figure 6 [WWN#0 – WWN#3]) for identifying the storage apparatus.

However, Eguchi teaches associating a storage apparatus identifier (Tanaka; Figure 6 [WWN#0 – WWN#3]) for identifying the storage apparatus with a logical volume identifier (Eguchi; Figures 11 and 12, Paragraphs [0146] – [0149]).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the teachings of Tanaka in combination with Witkowski to include the storage apparatus identifier because doing so allows for the prevention of an outflow of illegal data from a storage subsystem (Eguchi; Paragraph [0150] Lines 10 – 13).

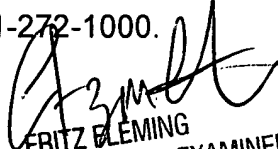
Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Richard Franklin whose telephone number is (571) 272-0669. The examiner can normally be reached on M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Fritz Fleming can be reached on (571) 272-4145. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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